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Bedford with a display for a kit as suggested by Johnson, since it would provide a hookup kit which is inexpensive and convenient to use (column 2, line 32)."

MPEP § 2141, under the heading BASIC CONSIDERATIONS WHICH APPLY TO OBVIOUSNESS REJECTIONS, states:

When applying 35 U.S.C. 103, the following tenets of patent law must be adhered to:

- (1) the claimed invention must be considered as a whole;
- (2) the references must be considered as a whole and must suggest the desirability and thus the obviousness of making the combination;
- (3) the references must be viewed without the benefit of impermissible hindsight vision afforded by the claimed invention and
- (4) reasonable expectation of success is the standard with which obviousness is determined: *Hodosh v. Block Drug Co., Inc.*, 786 F.2d 1136, 1143 n.5, 229 USPQ 182, 187, n.5 (Fed. Cir. 1986).

A study of the prior art relating to lawn sprinkling equipment shows several things. Primarily, novelty in sprinkler unit design is limited by the function.

A lawn sprinkler unit must include

- 1) an outer tubing connectable to an irrigation pipe directly, by an adhesive or fusing and/or through a fixture such as a "Y" or "T" unit. The attachment is usually through threads or glue.
- 2) an inner riser which is moved by a screw mechanism or a spring for retraction and irrigation water pressure for lifting the riser to a desired height.
- 3) a sprinkler head designed to expel water flowing upwardly through the outer tubing and the inner riser.

A review of the state of the art shows that most inventions arise out of the creation of mechanisms to seal off leaks, align the inner and outer tubing and create predetermined spray patterns for dispersing the water. In the commercial history of the art, changes in the size of the components and the costs of materials, manufac-

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turing and marketing have had more to do with commercial success than invention because the few meaningful inventions can be made in the lawn sprinkler design.

One early approach to an efficient operating design was to utilize threaded components to periodically raise the sprinkler head to desired positions below the height of the grass to be cut. Since annual thatch build-up increased the depth of the soil relative to the buried irrigation pipe, the adjustments normally were made at least once per growing season depending on the climate. An early example of this approach is U.S. 1,833,040 to H. K. Rader filed 09/23/29. (See the single attached page of each of the figures of patents to be discussed hereafter. The figures starkly illustrate the minimal design changes made through the decades).

A more recent, extremely sophisticated and simplified design is found in James Oddo, U.S. Des. 334,047 filed 02/15/90 where modern technology allowed PVC and/or polyethylene pipe to be screwed or glued to an irrigation pipe elbow or T fitting.

Another recent example is U.S. 5,141,255 to Katsuyuk Hanaoka filed 08/03/91 where an outer member 19 is threaded for attachment to a male or female nipple or other attachment used to connect to the irrigation pipe. Much of the inner surface of the outer member is threaded. A riser 15 has external threading so as to allow the inner member to be set at a desired height.

The thread-based sprinkler units were displaced from the market after a technical lifespan of six decades because of the advent of the power mower which broke off the unretractable sprinkler heads.

A second approach to raising the sprinkler heads of lawn sprinkler units evolved at least as early as 02/21/42 when E. A. Truedson filed for his U.S. 2,315,911 patent claiming a spring-loaded, pop up sprinkler unit. This simple, elegantly designed sprinkler unit attached to an irrigation "T" water supply pipe fitting by a threaded outer bottom surface. The unit was very simple and undoubtedly inexpensive. A hollow stem 12 was topped by a cap 8 and, on its lower end, attached to a supply pipe 5. Spring 6 was used to retract stem 12 into pipe 9. However, there

This rejection is respectfully traversed for reasons as stated above with respect to the rejection of claim 184, since Goldsborough does not supply the lack of teaching of the other two references.

Claim 194 stands rejected under 35 USC 103(a) on Brown in view of Hoyt as applied to claim 184 above and further in view of Berger as applied above.

This rejection is respectfully traversed for reasons as stated above with respect to the rejection of claim 184 and because Berger does not supply the lack of teaching of the other two references.

In summation, claims 54, 55, 60, 107, 111, 116, 117, 119, 120, 122, 124, 125, 127, 129, 130, 132, 134, 135, 137, 139, 140, 142, 144, 145, 147, 149, 150, 152, 154, 155, 157, 159, 160, 162, 164, 165, 167, 169, 172, 175, 179 and 181-183 stand allowed.

Claims 170, 171, 173, 174, 176 and 177 are deemed allowable since they directly or indirectly depend from an allowed claim.

Claims 61, 66, 67, 75, 106, 118, 121 and 184 have been amended and are now believed to be allowable.

Claims 68, 76 and 185 have been cancelled.

New claims 195, 196 and 197 have been added.

The remaining claims are dependent either directly or indirectly on the amended claims.

In view of the foregoing, early and favorable consideration is respectfully requested.

Respectfully submitted,

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